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ABSTRACT

This document is intended as a guide for librarians and should be amended, altered, or otherwise scaled to meet the particular needs of a library. Two separate sets of specifications are included: one for preparing film on a planetary type camera and the other for a rotary type camera. (Author)

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Specifications for 16mm Microfilming of Library Card Catalogs

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PREFACE

These specifications for microfilming library card catalogs have been compiled at the request of the ALA Interlibrary Loan Committee and have been prepared as a joint enterprise of that committee and the American Library Association RTSD Reproduction of Library Materials Section.

This document is intended as a guide for librarians and should be amended, altered, or otherwise scaled to meet the particular needs of a library. Two separate sets of specifications are included: one for preparing film on a planetary type camera and the other for a rotary type camera.

The committee acknowledges with thanks the contribution of Thomas Bagg of the U.S. National Bureau of Standards, who provided the basic document from which this Specification was developed.

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TABLE OF CONTENTS

		Page No.
Preface		iii
1. Introduction		1
2. Description of Card Catalogs		1
3. Conditions of Filming		1
3.1	Library Responsibilities	1
3.2	Contractor Responsibilities	1
4. Technical Specifications for Microfilming on a Planetary Camera		2
4.1	The Camera Negative Master	2
4.2	Format	2
4.2.1.	Image Orientation	2
4.2.2	Image Location	2
4.2.3	Reduction Ratio	2
4.3	Machine-Control Marks	2
4.3.1	Image-Centering Mark	2
4.3.2	Card-Cutting Mark	2
4.4	Resolution	2
4.5	Density	3
4.6	Film Processing and Handling	3
4.7	Other Photographic Requirements	3
4.7.1	Leader and Trailer	3
4.7.2	Mechanical Defects	3
4.7.3	Splicing	3
4.8	The Camera Test Card	3
4.9	Targets	3
4.10	Guide Cards	3
5. Packaging and Labeling		4
5.1	Film Packaging	4
5.1.1	Boxes	4
5.1.2	Cartridges	4
5.2	Labels	4
6. Responsibility of Microfilm Producer		4

		Page No.
7. Inspection and Quality Control Procedure for Planetary-Type Camera Microfilm		4
7.1	Format	4
7.1.1	Image Centering and Orientation	4
7.1.2	Reduction Ratio	4
7.1.3	Machine Code Marks	4
7.1.4	Image Clarity	4
7.1.5	Density	5
7.1.6	Hypo Content	5
7.1.7	Other Photographic Requirements	5
7.1.7.1	Leader and Trailer	5
7.1.7.2	Mechanical Defects	5
7.1.7.3	Thermal-Weld Splices	5
7.1.7.4	Target and Guide Card Requirements	5
7.1.8	Reels	5
7.2	Packaging and Labeling	5
7.2.1	Packages	5
7.2.2	Box Labels	5
8. Technical Specifications for Microfilming on a Rotary-Type Camera		5
8.1	Camera Negative Master	5
8.2	Format	6
8.2.1	Image Orientation	6
8.2.2	Reduction Ratio	6
8.3	Resolution	6
8.4	Density	6
8.5	Film Processing and Handling	6
8.6	Other Photographic Requirements	6
8.6.1	Leader and Trailer	6
8.6.2	Mechanical Defects	6
8.6.3	Splicing	6
8.7	The Camera Test Card	6
8.8	Targets	7
9. Packaging and Labeling		7
9.1	Film Packaging	7
9.1.1	Boxes	7
9.1.2	Cartridges	7
9.2	Labels	7
10. Responsibility of the Microfilm Producer		7
11. Inspection and Quality Control Procedure for Rotary Camera Microfilm		7
11.1	Format	8
11.1.1	Image Orientation	8
11.1.2	Reduction Ratio	8
11.1.3	Image Clarity	8
11.1.4	Density	8
11.1.5	Hypo Content	8

11.1.6	Other Photographic Requirements	8
11.1.6.1	Leader and Trailer	8
11.1.6.2	Mechanical Defects	8
11.1.6.3	Thermal-Weld Splices	8
11.1.6.4	Target Requirements	8
11.1.7	Reels	8
11.2	Packaging and Labeling	8
11.2.1	Packages	8
11.2.2.	Box Labels	9
Appendix A	**Figures**	10
Appendix B	**Reference Materials**	

1. INTRODUCTION

Because of the bibliographical importance of library card catalogs, the use of microphotography offers unique advantages both as a means of preserving this vulnerable asset and as a way to disseminate copies to other libraries and research and reference centers. For maximum usefulness, the film should be made to specifications which allow either automatic regeneration of full-size cards by means of a continuous-flow enlargement printer (such as a Copyflo machine) or the use of copies in standard microfilm reading equipment.

Two types of cameras may be used in the filming. The planetary camera photographs documents that are stationary and on a plane surface. In a rotary camera, during exposure both the film and the documents move, controlled by a transport mechanism so that there is no relative movement between them. The continuous movement of the rotary camera generally results in less control of image placement and a lower film definition and, therefore, generally lower quality hardcopy reproduction. The planetary camera produces film that is particularly adaptable to making full-size copies of the cards.

Since each use requires different film specifications, the microfilm technology outlined here includes separate specifications for production of the film on a planetary camera (allowing full-size regeneration) and on a rotary-type camera. Both specifications should produce an archival quality film. However, the advantages of high speed and low initial cost of the rotary camera as contrasted with the planetary must be weighed against the disadvantages of a microfilm of generally lower definition, less control of image placement, and consequently a generally lower quality hardcopy reproduction should reconstitution of the hardcopy catalog ever be necessary.

2. DESCRIPTION OF CARD CATALOGS

The card catalogs of a library typically consist of cards measuring approximately 75mm x 125mm, in varying thicknesses. In addition to the catalog cards, each file contains a quantity of guide cards with tab and generally of heavier card stock than the card file. A shelflist or authority file may have relevant information, which also must be filmed, on the reverse of many or all cards. The size of the file to be filmed may be estimated by approximating the number of cards in each drawer and multiplying this figure by the number of drawers in each separate card catalog to be filmed.

3. CONDITIONS OF FILMING

3.1 Library Responsibilities

The entire filming process must be under the general supervision of a responsible library staff member. To minimize the risk of losing or misfiling cards, the filming should be accomplished within the confines of the library. If space is not available, a limited and specified number of card drawers may be given to the microfilm producer for specified lengths of time, depending upon the amount of use the catalog receives. The library may furnish tables, chairs, and electrical power; all other equipment and supplies are the responsibility of the microfilm producer. The decision as to work schedule should be based on the use factor of the catalog being filmed.

Before filming the catalog, the contents of the file should be reviewed to ensure proper sequence of card trays. A reading of the entire file may also be advisable to correct misfilings, remove obsolete temporary entries, etc. The completed microfilm can be no more accurate than the file itself.

Since tab cards do not flow evenly through a rotary type camera, it may be desirable to retype the guide cards onto regular card weight stock measuring 75mm x 125mm. These would serve as targets, which would be particularly useful for films used as reference and research tools on a regular basis. To improve legibility of the guide information on the microfilm, a large type size is recommended.

3.2 Contractor Responsibilities

The filming of the contents of all catalogs should be in strict file order, with respect to both the sequential order of cards within each drawer and the numerical order of drawers in their cases. If necessary, the film

should be rearranged and spliced, so that the filing sequence of the catalog and the order of drawers in the catalog is maintained on the delivered film.

Each card should be carefully placed or fed into position for filming and returned to its proper location in the file so that file integrity will be ensured. However, proper feeding of a rotary camera will not necessarily ensure file integrity, since the cards can get out of order at the camera exit.

It should be the responsibility of the microfilm production agency to ensure that the cards and catalog drawers are returned to their correct location.

The entire performance agreement (contract), including the delivery of processed, inspected, labeled, and packaged film, should be completed within a time period specified by the library. If partial deliveries of completed film rolls are required, shipments should be divided into lots and inspected as outlined in sections 7 and 11 below. After receipt of a shipment, the library should accept or reject the lots within a few working days at the rate of at least one lot per working day.

Except for testing purposes, the microfilm producer should not make, without permission, any films or copies besides those prepared according to the agreement.

4. TECHNICAL SPECIFICATIONS FOR MICROFILMING ON A PLANETARY CAMERA

The microfilm to be provided through this process should conform to the following specifications. However, if any of these provisions should be found inconsistent with those published by the American National Standards Institute or other standards referred to, the specifications in this agreement should govern.

4.1 The Camera Negative Master

The master microrecord should be photographic camera negative images on unperforated 16mm microfilm. This microfilm should be a document-recording panchromatic silver halide emulsion of camera speed and very fine grain, applied to a suitable triacetate film base with an antihalation coating. The camera negative film must conform to the following American National Standards Institute specifications:

PH1.25-1965, or latest: *Safety Photographic Film*
PH1.28-1969, or latest: *Photographic Films for Permanent Records*
PH5.3-1967, or latest: *Specification for 16mm and 35mm Silver Gelatin Microfilms for Reel Applications*

4.2 Format

4.2.1 Image Orientation

Images of the cards should be oriented and filmed in the 1A position so that the long edges of the card are perpendicular to the long edge of the film to within 45 minutes. The 1A position is described in ANSI PH5.3-1967, or latest: *Specifications for 16mm and 35mm Silver Gelatin Microfilm for Reel Applications.*

4.2.2 Image Location

Each card image should be centered on both axes within the frame in both directions to within ± 0.005 inch (0.128mm).

4.2.3 Reduction Ratio

The ratio of the original card size to the recorded image must be 12±0.24:1 or a comparable reduction ratio compatible with automatic enlargement equipment (e.g., Xerox Copyflo) and available microfilm reading devices.

4.3 Machine-Control Marks

There should be two machine-control marks associated with each image.

4.3.1 Image-Centering Mark

Each frame will contain an image-centering mark as described in the National Microfilm Association MS-8 *Industry Standard Document Mark (Blip) Used in Image Mark Retrieval Systems,* 1974. This will be a black mark on a transparent background at the left side of each card image (see figure 1 in appendix A). This mark is used in automatically retrieving card images on the roll film.

4.3.2 Card-Cutting Mark

A transparent card-cutting mark on a continuous black (i.e., an overlapping of frames) background must be provided which will enable automatic cutting of individual cards after regeneration by an enlargement printer, such as the Xerox Copyflo. A cutting machine using a photosensing device, such as an Alves Cutter, should be used. The exact size of this mark or position is determined by the microfilm producer so long as it does not interfere with the centering mark and so long as it can be used successfully with commercially available equipment and materials.

4.4 Resolution

Resolution should be measured by following *Instruc-*

tions for the Use of the National Bureau of Standards Microcopy Resolution Test Chart. All five lines of the eight-line-per-millimeter target of the NBS Microcopy Resolution Test Chart 1963A (1010) must be counted with reasonable confidence in both directions, as described in the instructions, when the film is exposed and processed so that the density of the 90-percent reflectance chart is 1.15 to 1.35 and the base-plus-fog density is 0.15 or less. This resolution must be maintained in both charts on beginning and ending test cards.

4.5 Density

Density should be measured in accordance with ANSI PH2.19-1959, or latest: *Diffuse Transmission Density.* The density difference in the microimage between the image areas of the card and the ink should be such that subsequent contact and reduction film copies and enlargement prints could be made without appreciable loss of information. When good cards of cream color and black ink are being recorded, the image density of the card (background) should usually be between 1.1 and 1.35 inclusive, with a base-plus-fog density of unexposed areas of 0.15 or less. For badly faded cards (ink or paper), the exposure must be adjusted to give a density difference between card and ink images which will produce the best contact or enlargement prints in a practical production system.

4.6 Film Processing and Handling

All silver halide films used for the archival recordings should be processed and handled carefully in accordance with the following ANSI specifications, or their most recent revisions:

PH1.28-1969: *Photographic Films for Permanent Records*
PH4.8-1971: *Method for Determining the Thiosulphate Content of Processed Black and White Photographic Films and Plates.*
PH5.4-1970: *Practice for Storage of Microfilm.*
PH5.6-1968: *Dimensions for 100-foot Reels for Processed 16mm and 35mm Microfilm.*

The recommendations made in National Bureau of Standards Technical Note 261, *Summary of Current Research on Archival Microfilm* (Washington, 1965), should also be followed.

4.7 Other Photographic Requirements

4.7.1 Leader and Trailer

All reels should have at least three feet of clear (unfogged) film or uncoated triacetate film base of the same base thickness for leader and three feet of the same material for trailer.

4.7.2 Mechanical Defects

Microfilm produced in accordance with these specifications should have no scratches, holes in the emulsion or base, tears, finger marks, chemical residue, or any other defect that might adversely affect the quality and legibility of the microimages. There should be no notches in the camera negative.

4.7.3 Splicing

There should not be more than six splices in each 100 feet of film. When splicing is required, a thermally welded joint should be used.

4.8 The Camera Test Card

The camera test card (see figure 2 in appendix A) is an assembly of the center sections of two NBS Microcopy Resolution Test Charts (1963A 1010), three 30mm square gray scale reflectance patches, and a 76mm scale, all mounted on a 75mm x 125mm card as illustrated in figure 2.

The test card should be filmed at the beginning and end of each reel with the original documents on the same camera, at the same time, and under conditions which will yield the same density for the 90-percent gray scale reflectance patches. To ensure that these conditions have been met, there should be no splices between the test cards and the adjacent 10 frames.

4.9 Targets

Following the initial test cards and a blank frame, there should be a target giving the name of the specific catalog and the date of filming. Images of characters on this and all targets as they appear on the film must be at least 2mm in height.

An additional target showing the information on the drawer label, including drawer number and roll number, should be recorded if a reel of film corresponds to a drawer of cards; otherwise, the target should indicate the beginning and end of the sequence included on the reel.

4.10 Guide Cards

Guide cards should be recorded so that the caption appearing in the tab area is not cut off when cards are enlargement printed and automatically cut.

When filming guide cards, position the top edge of the tab as if it were the top edge of the card in order to ensure that the information on the tab is retained when cards are enlargement printed and automatically cut.

5. PACKAGING AND LABELING

5.1 Film Packaging

5.1.1 Boxes

Film should be supplied by the contractor in standard 4- x 4- x 7/8-inch boxes which must be approved for use as archival storage containers. These boxes, as well as the reels, should be made of an inert material and be free from chemicals harmful to the film contained within them. Paper ties or string ties used should also be free from chemicals harmful to the film. No rubber bands or paper clips should touch the film at any time or be placed within the boxes.

5.1.2 Cartridges

Film designed for reference and research use may also be loaded in cartridges for quicker threading and access in reading equipment designed for this purpose. Since each guide card serves as an index point to the catalog on film, an external index could be generated by determining the appropriate control points (depending on the type of rapid-access reading equipment employed) for each guide card and posting this number plus the correct cartridge number to the external index.

5.2 Labels

On one end of each box there should be a label showing the name of the catalog, beginning and ending point of the content of the enclosed roll, the date, and the roll number. Neither the paper of the label nor the adhesive should contain substances potentially harmful to the film.

6. RESPONSIBILITY OF MICROFILM PRODUCER

It is the responsibility of the microfilm producer to inspect the quality of all images within one calendar week after filming to ensure that the specifications herein stated are fully met. Should a subsequent inspection by the library reveal appreciable divergence from these specifications, the microfilm producer should be required to refilm whatever portion of the catalog is necessary, at no cost to the library. Library inspection procedure giving acceptable limits on divergence from specifications is covered below.

7. INSPECTION AND QUALITY CONTROL PROCEDURE FOR PLANETARY-TYPE CAMERA MICROFILM

The filming specifications for microfilm require that all images conform to the quality requirement contained in section 4 above. The library should inspect samples of the completed film by following an accepted sampling procedure, such as the one outlined in MIL-STD *Sampling Procedures and Tables for Inspection by Attributes*. If the acceptance quality level (AQL) of the samples is not within the specifications for all requirements, the lot should be returned to the microfilm producer for correction and reinspection. All defects found should be corrected by the microfilm producer, even if the lot is accepted.

7.1 Format

7.1.1 Image Centering and Orientation: ±0.005" (0.128mm) with the long edges of the card perpendicular to the long edge of the film to within 45 minutes.

Inspect 10 frames per roll from at least two rolls selected at random from each lot.

AQL 0.65%

7.1.2 Reduction Ratio: 12 ± 0.24:1

Inspect 2 frames per rolls from each camera for every second lot. All frames must show proper reduction ratio.

7.1.3 Machine Code Marks (See figure 1 in appendix A)

Inspect 10 frames per roll from each camera for every second lot.

All code marks must have proper size and location.

7.1.4 Image Clarity

Resolution: 10 lines/mm pattern at proper density

Inspect both microresolution test charts in two frames per roll from four rolls per lot.
AQL 0.65%

Legibility: Inspect 50 frames per roll from four rolls per lot.
All frames must be legible (assuming the original cards are legible) and capable of producing legible reproductions from third-generation negatives.

7.1.5 Density

Gross Fog: 0.15 or less
Inspect four rolls per lot
AQL 0.65%

Background and Machine Control Mark Density: 1.15 through 1.35
Inspect 50 frames and code marks per roll from four rolls of each lot.
AQL 0.65%

Contrast: 1.00 through 1.20
Inspect 50 frames per roll from four rolls of each lot.
AQL 0.65%

Contrast limits take precedence over background density. Badly faded ink or paper of original document must be considered when judging image background density.

7.1.6 Hypo Content: microgram per sq cm or below

Inspect one roll per three lots.
Roll must conform to specifications.

7.1.7 Other Photographic Requirements

7.1.7.1 Leader & Trailer: 3 feet each, clear

Inspect one roll per lot.
All must have proper leaders and trailers.

7.1.7.2 Mechanical defects, such as

(a) holes, scratches, tears, blemishes, notches, water marks, etc., in base or emulsion which obliterate the image formation, and
(b) fine scratches, dirt, fingerprints, etc., which do not obliterate information.

Inspect with at least an 8X lens, 50 frames per roll, four rolls of each lot.
(a) Major AQL 0.65%
(b) Minor AQL 1.5%

7.1.7.3 Thermal-Weld Splices

Inspect two rolls per lot.
All splices must be strong, complete, and thermal welded, and should not exceed six for each 100 feet of film.

7.1.7.4 Target and Guide Card Requirements

Inspect four rolls per lot.
All targets should contain proper identification information.
All targets should contain a cut mark.
AQL 0.25%

7.1.8 Reels: proper material and winding

Inspect two rolls per lot.
All must be of proper material and wound as specified.

7.2 Packaging and Labeling

7.2.1 Packages: Size and material of boxes

Inspect four boxes per lot.
AQL 0.65%

7.2.2 Box Labels: "Archival"

Inspect four labels per lot.
AQL 0.65%

8. TECHNICAL SPECIFICATIONS FOR MICROFILMING ON A ROTARY-TYPE CAMERA —

The security film to be provided through this process should conform to the following specifications. However, if any provision of the following specifications should be found inconsistent with American National Standards Institute and other specifications referred to, the specifications in this agreement should govern.

8.1 Camera Negative Master

Each microrecord should be photographic camera negative images on unperforated 16mm microfilm. This microfilm should be a document-recording panchromatic silver halide emulsion of camera speed and very fine grain, applied to a suitable triacetate film base with an antihalation coating. The camera negative film must conform to the following American National Standards Institute specifications:

PH1.25-1965, or latest: *Safety Photographic Film*
PH1.28-1969, or latest: *Photographic Films for Permanent Records*

PH5.3-1967, or latest: *Specifications for 16mm and 35mm Silver Gelatin Microfilms for Reel Applications.*

8.2 Format

8.2.1 Image Orientation

Images of the cards should be oriented and filmed in the 1A position so that the long edges of the card are perpendicular to the long edge of the film to within 2 degrees 15 minutes. The 1A position is described in ANSI PH5.3-1967, or latest: *Specifications for 16mm and 35mm Silver Gelatin Microfilms for Reel Applications.*

8.2.2 Reduction Ratio

The ratio of the original card size to the recorded image must not exceed 24:0.48:1 or a comparable reduction ratio compatible with automatic enlargement equipment (e.g. Xerox Copyflo) and available microfilm reading devices.

8.3 Resolution

Resolution should be measured by following *Instructions for the Use of the National Bureau of Standards Microcopy Resolution Test Chart.* All five lines of the four-line-per-millimeter target of the NBS Microcopy Resolution Test Chart 1963A (1010) must be counted with reasonable confidence in both directions, as described in the instructions, when the film is exposed and processed so that the density of the 90-percent reflectance chart is 1.15 to 1.35 and the base-plus-fog density is 0.15 or less. This resolution must be maintained in both charts on beginning and ending test cards.

8.4 Density

Density should be measured in accordance with ANSI PH2.19-1959, or latest: *Diffuse Transmission Density.* The density difference in the microimage between the image areas of the card and the ink must be such that subsequent contact and reduction film copies and enlargement prints can be made without appreciable loss of information. Where possible, the density difference in the image between the images of the card and the ink shall be 1.0 to 1.2. When good cards of cream color and black ink are being recorded, the image density of the card (background) should usually be between 1.1 and 1.35 inclusive, with a base-plus-fog density of unexposed areas of 0.15 or less. Rotary camera equipment with built-in light control feature is recommended to ensure specified density.

8.5 Film Processing and Handling

All silver halide films used for the archival recordings should be processed and handled carefully in accordance with the following ANSI specifications, or their latest revisions:

PH1.28-1969: *Photographic Films for Permanent Records*
PH4.8-1971: *Method for Determining the Thiosulphate Content of Processed Black and White Photographic Films and Plates*
PH5.4-1970: *Practice for Storage of Microfilm*
PH5.6-1968: *Dimensions for 100-foot Reels for Processed 16mm and 35mm Microfilm*

The recommendations made in National Bureau of Standards Technical Note 261, *Summary of Current Research on Archival Microfilm* (Washington, 1965), should also be followed.

8.6 Other Photographic Requirements

8.6.1 Leader and Trailer

All reels should have at least three feet of clear (unfogged) film or uncoated triacetate film base of the same base thickness for leader and three feet of the same material for trailer.

8.6.2 Mechanical Defects

Microfilm produced in accordance with these specifications should exhibit no scratches, holes in the emulsion or base, tears, finger marks, chemical residue, or any other defect that might adversely affect the quality and legibility of the microimages. There should be no notches in the camera negative.

8.6.3 Splicing

Splicing of corrected film for each group of approximately 12 or more consecutive cards should not exceed six for each 100 feet of film. When splicing is required, a thermally welded joint should be used. For remakes of fewer than 12 consecutive cards, film the cards on a single piece of film and splice at end of reel. Insert a target at beginning of reel as follows: Remakes of defective images made at initial filming, or of omitted cards, are spliced in a separate sequence at the end of this reel.

8.7 The Camera Test Card

The camera test card (see figure 2 in appendix A) is an assembly of the center sections of two NBS Microcopy Resolution Test Charts 1963A (1010), three 30mm square gray scale reflectance patches, and a 76mm scale, all mounted on a 75mm x 125mm card as illustrated in figure 2.

The test card should be filmed at the beginning and end of each reel with the original documents on the

same camera, at the same time, and under conditions which will yield the same density for the 90-percent gray scale reflectance patches. To ensure that these conditions have been met, there should be no splices between the test card and the adjacent 10 frames.

8.8 Targets

Following the initial test cards and a blank frame, there should be a target giving the name of the specific catalog and the date of filming. Images of characters on this and all targets as they appear on the film must be at least 2mm in height.

An additional target showing the information on the drawer label, including drawer number and roll number, should be recorded if a reel of film corresponds to a drawer of cards; otherwise, the target should indicate the beginning and end of the sequence included on the reel.

9. PACKAGING AND LABELING

9.1 Film Packaging

9.1.1 Boxes

Film should be supplied by the contractor in standard 4- x 4- x 7/8-inch boxes which must be approved for use as archival storage containers. These boxes, as well as the reels, should be made of an inert material and be free from chemicals harmful to the film contained within them. Paper ties or string ties, if used, should also be free from chemicals harmful to the film. No rubber bands or paper clips should touch the film at any time or be placed within the boxes.

9.1.2 Cartridges

Film designed for reference and research use may also be loaded in cartridges for quick threading and access when used in reading equipment designed for this purpose. Since each guide card serves as an index point to the catalog on film, an external index could be generated by determining the appropriate control points (depending on the type of rapid-access reading equipment employed) for each guide card and posting the number plus the correct cartridge number to the external index.

9.2 Labels

On one end of each box there should be a label showing the name of the catalog, beginning and ending point of the content of the enclosed roll, the date, and the roll number. Neither the paper of the label nor the adhesive should contain substances potentially harmful to the film.

10. RESPONSIBILITY OF THE MICROFILM PRODUCER

It is the responsibility of the microfilm producer to inspect the quality of all images within one calendar week after filming to ensure that the specifications herein stated are fully met. Should a subsequent inspection by the library reveal appreciable divergence from these specifications, the microfilm producer should be required to refilm whatever portion of the catalog is necessary, at no cost to the library. Library inspection procedure giving acceptable limits on divergence from specifications is covered below.

11. INSPECTION AND QUALITY CONTROL PROCEDURE FOR ROTARY CAMERA MICROFILM

The filming specifications for microfilm require that all images conform to the quality requirement contained in section 8 above. The library should inspect samples of the completed film by following an accepted sampling procedure, such as the one outlined in MIL-STD *Sampling Procedures and Tables for Inspection by Attributes*. If the acceptance quality level (AQL) of the samples is not within the specifications for all requirements, the lot should be returned to the microfilm producer for correction and reinspection. All defects found should be corrected by the microfilm producer, even if the lot is accepted.

11.1 Format

11.1.1 Image Orientation: long edges of the card perpendicular to the long edge of the film to within 2 degrees 15 minutes.

Inspect 10 frames per roll from at least two rolls selected at random from each lot.

AQL 0.65%

11.1.2 Reduction Ratio: 24 ± 0.48:1 or comparable reduction ratio agreed upon by microfilm producer and library

Inspect 2 frames per roll from each camera for every second lot.

All frames must show proper reduction ratio.

11.1.3 Image Clarity

Resolution: 4 lines/mm pattern at proper density

Inspect both microresolution test charts in two frames per roll from four rolls per lot.

AQL 0.65%

Legibility: Inspect 50 frames per roll from four rolls per lot.

All frames must be legible (assuming the original cards are legible) and capable of producing legible reproductions from third-generation negatives.

11.1.4 Density

Gross Fog: 0.15 or less

Inspect four rolls per lot.

AQL 0.65%

Background Density 1.15 through 1.35

Inspect 50 frames per roll from four rolls of each lot.

AQL 0.65%

Contrast: 1.00 through 1.20

Inspect 50 frames per roll from four rolls of each lot.

AQL 0.65%

Contrast limits take precedence over background density. Badly faded ink or paper of original document must be considered when judging image background density.

11.1.5 Hypo Content: 0.8 microgram per sq cm or below

Inspect one roll per three lots.

Roll must conform to specifications.

11.1.6 Other Photographic Requirements

11.1.6.1 Leader and Trailer: 3 feet each, clear

Inspect one roll per lot.

All must have proper leaders and trailers.

11.1.6.2 Mechanical defects, such as

(a) holes, scratches, tears, blemishes, notches, water marks, etc., in base or emulsion which obliterate the image formation, and

(b) fine scratches, dirt, fingerprints, etc., which do not obliterate information.

Inspect with at least an 8X lens, 50 frames per roll, four rolls of each lot.

(a) Major AQL 0.65%

(b) Minor AQL 2.5%

11.1.6.3 Thermal-Weld Splices

Inspect two rolls per lot.

All splices must be complete, and thermal welded. No more than six splices should be made in a 100-foot roll. Remakes may appear in one sequence at end of reel. Consecutive runs of 12 or more remade cards should be spliced in correct sequence. See appendix A for suggested procedure for replacing occasional omitted or improperly filmed cards.

11.1.6.4 Target Requirements

Inspect four rolls per lot.

All targets should contain proper identification information.

AQL 0.25%

11.1.7 Reels: proper material and winding

Inspect two rolls per lot.

All must be of proper material and wound as specified.

11.2 Packaging and Labeling

11.2.1 Packages: Size and material of boxes

Inspect four boxes per lot.

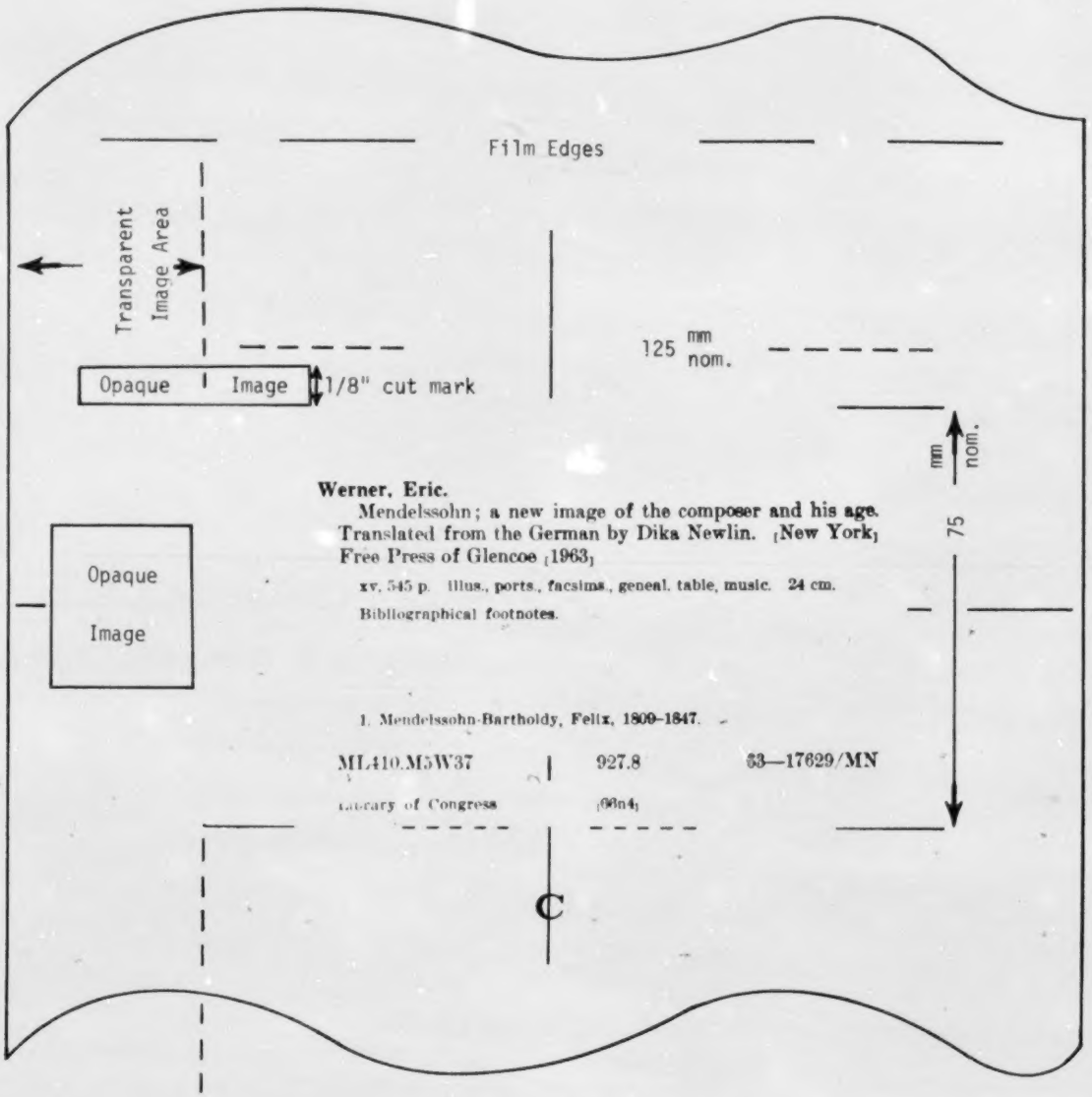
AQL 0.65%

11.2.2 Box Labels: "Archival"

Inspect four labels per lot.

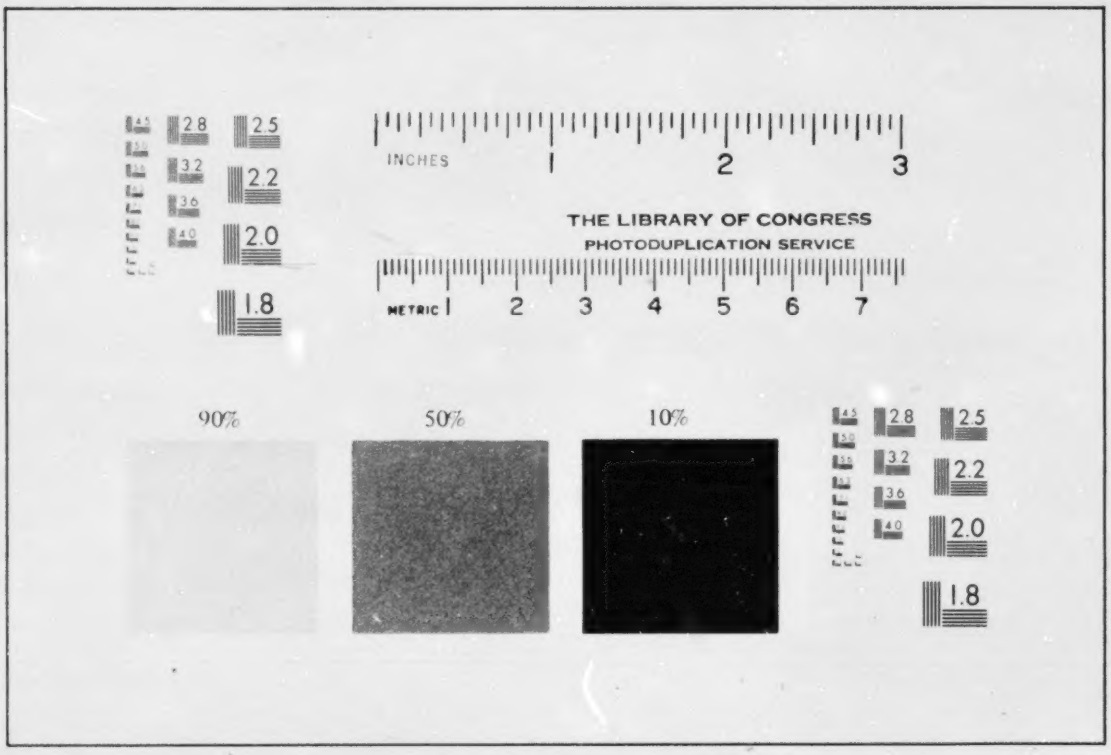
AQL 0.65%

APPENDIX A FIGURES



Center Mark as located on Copyboard

Figure 1



Test Card *(not in scale)*

Figure 2

APPENDIX B REFERENCE MATERIALS

American National Standards Institute, 1430 Broadway, New York, N.Y. 10018, publishes and sells the ANSI standards cited in this specification. It is advisable to request their annual catalog of publications before placing an order.

Miele, Anthony W. "The Illinois State Library Microfilm Automated Catalog," *Illinois Libraries* 54, 1972, no. 3, pp. 199-202

NMA Standard Glossary of Micrographics. Available from National Microfilm Association, 8728 Colesville Road, Silver Spring, Md. 20910. 5th ed. MA100-1971. Specify most recent edition when ordering.

U.S. Department of Defense. *Military Standard. Sampling Procedures and Tables for Inspection by Attributes.* Available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. MIL-STD-105-D. Request most recent edition when ordering.

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